In Table 6 is given the percentage frequency of north and south components at 3,000 and 4,000 meters under differing conditions of wind direction at the surface. Here we find that with a north component at the surface the northerly influence persists 79 per cent of the time to 3,000 meters, and 80 per cent at 4,000 meters. With a south surface component the southerly influence continues at 3,000 meters in 39 per cent of all cases and at 4,000 meters in 33 per cent of all cases. With a west surface wind a north component prevails at 3,000 meters in 69 per cent of all times and at 4,000 meters the same percentage. The south component for west surface directions is noted 14 per cent of the time at 3,000 meters and 7 per cent at 4,000 meters. With west surface winds a due west direction may be expected in 17 per cent of all cases at 3,000 meters and 24 per cent at 4,000 meters. When all observations are considered, it is found that at 3,000 and 4,000 meters due west winds occur 19 per cent of the time, a north component 55 and 56 per cent, respectively, and a south component 26 and 25 per cent.

Table 7 contains a summary of resultant winds. A comparison of these figures with those in Table 4 is of interest. There is little difference in the directions shown, but the resultant speeds are decidedly lower than the average speeds at all levels, owing to the considerable number of times that east component winds, or at any rate winds at an appreciable angle from west to northwest (the resultant direction) occur, as indicated in Table 3. This difference in speeds diminishes with height, as the frequency of west-component winds increases.

TABLE 6.—*Annual percentage frequency of north and south components in winds at 3,000 and 4,000 meters, with different surface directions*

Direction at earth's surface	Number of observations	North component	South component	Due west
At 3,000 meters:				
E. to WSW	513	38	39	23
W	79	69	14	17
WNW. to ENE	323	79	9	19
All directions	915	55	26	12
At 4,000 meters:				
E. to WSW	350	45	33	24
W	45	69	7	24
WNW. to ENE	248	80	11	9
All directions	643	56	25	19

TABLE 7.—*Free-air resultant winds (m. p. s.) at Lansing, Mich.*

Altitude	Spring		Summer		Autumn		Winter		Annual	
	Direction	Vel.	Direction	Vel.	Direction	Vel.	Direction	Vel.	Direction	Vel.
m.		*m. p. s.*		*m. p. s.*		*m. p. s.*		*m. p. s.*		*m. p. s.*
Surface	S. 76° W.	0.9	S. 85° W.	0.2	S. 69° W.	1.1	S. 75° W.	1.3	S. 76° W.	0.9
250	S. 73° W.	2.6	N. 88° W.	2.2	S. 74° W.	3.4	S. 76° W.	3.5	S. 79° W.	2.9
500	S. 73° W.	3.0	N. 84° W.	2.6	S. 73° W.	3.4	S. 82° W.	5.2	S. 81° W.	3.6
750	S. 81° W.	3.5	N. 85° W.	2.8	S. 81° W.	4.7	S. 85° W.	6.1	S. 86° W.	4.3
1,000	S. 86° W.	4.2	N. 79° W.	3.0	S. 81° W.	5.7	N. 88° W.	7.8	W	5.2
1,500	W	5.7	N. 75° W.	3.9	W	7.0	N. 79° W.	9.2	N. 84° W.	6.4
2,000	N. 83° W.	6.6	N. 71° W.	4.9	N. 88° W.	7.5	N. 78° W.	10.3	N. 80° W.	7.3
2,500	N. 77° W.	7.2	N. 69° W.	5.8	N. 83° W.	8.4	N. 74° W.	12.0	N. 76° W.	8.4
3,000	N. 70° W.	7.8	N. 65° W.	6.0	N. 83° W.	9.0	N. 71° W.	13.6	N. 72° W.	9.1
3,500	N. 62° W.	7.9	N. 61° W.	5.6	N. 77° W.	9.6	N. 69° W.	13.6	N. 67° W.	9.2
4,000	N. 67° W.	8.7	N. 62° W.	6.9	N. 80° W.	9.9	N. 66° W.	14.3	N. 69° W.	10.0
4,500	N. 63° W.	9.6	N. 60° W.	7.5	N. 79° W.	9.6	N. 63° W.	16.2	N. 66° W.	10.7
5,000	N. 62° W.	9.4	N. 58° W.	7.5	N. 77° W.	9.1	N. 55° W.	15.9	N. 63° W.	10.5
6,000	N. 61° W.	9.3	N. 58° W.	7.4	N. 70° W.	9.3	N. 56° W.	16.7	N. 61° W.	10.7

RECORDS OF TOTAL SOLAR RADIATION INTENSITY, AND THEIR RELATION TO DAYLIGHT INTENSITY[1]—A CORRECTION

By HERBERT H. KIMBALL

[Weather Bureau, Washington, February 12, 1925]

Dr. C. G. Abbot has kindly called my attention to the fact that footnote 14 on page 475 of the above-named paper does not apply to Mount Wilson. The data for Mount Wilson given in Table 1 on the same page were obtained from the Astronomical Journal for March 14, 1914, 28 : 133, and are based on bolometric measurements made on September 22 and 24, 1913. With respect to these measurements Dr. Abbot states:

> At that time the dust from Mount Katmai was still affecting the transparency and the larger part of the observations were made in the afternoon when the mountain is overlaid with haze which comes up with the sea breeze. The work was done employing the same quartz lens which was used on Mount Whitney. It is likely that these results and those for Mount Whitney, compared to others in your table, indicate too great brightness for the sky for this and three other reasons: First, the lens had a considerable number of striae which doubtless introduced some stray sunlight; in the second place, a thin quartz lens would be apt to transmit some radiation proper to the sky itself which during the afternoon might be warmed sufficiently to produce a positive deflection; and in the third place, the quartz lens is transparent to the extreme ultra-violet which would be cut off in the pyranometer experiments as also in the bolometric ones of 1905 and 1906 when glass was inserted. . . . If, owing to the circumstances I have related, it were recognized that some increase of the ratio factor for Mount Whitney and also for Mount Wilson is desirable, I believe the system [of ratios in Table 1] would be nearer the truth.

Reference to Figure 1 and Table 2, MONTHLY WEATHER REVIEW for November, 1924, **52** : 528, 529, shows that the means of pyrheliometric measurements of direct solar radiation made at Warsaw, Poland; Simla, India; Paris, France; Mount Weather, Va.; Kew Observatory, England; Madison, Wis.; and Santa Fe, N. Mex., give intensities in September, 1913, that are about 5 per cent less than the average for September under normal atmospheric conditions.

The probability that Doctor Abbot is correct in his statement is further strengthened by a consideration of the sky-brightness measurements made on Mount Wilson in 1905 and 1906. (See Annals of the Astrophysical Observatory, vol. 2, pp. 146–152.) These give for the ratios of Table 1, above quoted, for solar zenith distance 25°, 17.4, and for solar zenith distance 51.5°, 8.4. Therefore my statement on page 475 that the measurements for Hump Mountain "do not seem to be in accord with other measurements, since they show too little sky radiation" does not seem to be in accord with the facts as now set forth and should be stricken out.

[1] MO. WEATHER REV., October, 1924, 52:473.